Music:
The Multiple Intelligence Stepchild

Cathy L. Kassell
Doctoral Candidate
Teachers College, Columbia University

> I am sometimes asked whether I feel upset or betrayed by people who put my theory or concepts to uses I do not personally favor. Of course, such practices make me uneasy — but I cannot take responsibility for the uses or misuses to which my ideas are put by anyone who encounters them in the marketplace. Still, if someone who has worked with me were to apply the ideas in a way I could not endorse, I would ask him or her to develop a separate terminology and to desist from relating the work to my own.
>
> (Howard Gardner, 1993a, p. xxiii)

The following lesson plans are representative of multiple intelligence interdisciplinary classroom work.

> **Unit Title**: Solving Algebraic Equations
> **Lesson Objective**: To learn how to solve equations through four modes (intelligences).
> **Anticipated Learner Outcome**: Students will be able to explain and apply the concepts and process of solving equations.
> **Activity**: Create song lyrics to the tune *She'll Be Commin' Round the Mountain* that explain commutative, associative and distributive laws.
>
> (Campbell, Campbell and Dickson, 1992, p. 177)

> **Concept:** Find recorded musical phrases, songs, or pieces that sum up in a compelling way the key point or main message of a lesson or unit.
> **Activity**: To illustrate Newton's first law of motion (A body remains in its state of rest unless it is compelled to change that state by a force impressed on it), you could play the first few lines of Sammy Davis Jr's version of "Something's Gotta Give." Such "musical concepts" are often effective openers to a lesson.
>
> (Armstrong, 1994, p. 78)

> **Activity**: Compose an original song in order to convey understanding of the topic or concept.
> **Parameters:** The song must be comprised of three different notes incorporating two different rhythmic patterns, lasting a period of two minutes.
>
> (Lazear, MI Conference, January 1996)

The preceding examples illustrate ways in which musical intelligence is addressed through existing multiple intelligence curricula. The first activity indicates that students will come away with a deeper understanding of commutative, associative and distributive laws. However, the music concept is linguistic and not musical in application, and it is not clear how writing song lyrics will ensure an entry point into the application of algebraic understanding. The second activity suggests pulling a few phrases from a song that allegedly will illuminate a deep and abstract concept. The third begins to approach music as a true discipline composed of sign and symbol notation; however, there are problems in its application and interpretation. The activity presupposes that the teacher and students will have a fundamental knowledge of the musical sign symbol notation needed to accomplish this task in an authentic musical way. The random parameters that are assigned do not offer musical direction or musical standards. Further, the task is not worded in a musical way and would probably intimidate a classroom teacher as well as the students.

The movement toward restructuring education through the lens of multiple intelligences has agitated the educational community in a positive fashion. The issues surrounding Gardner's theory have produced discourse, books, articles, training sessions, and a multitude of curricular applications. Using examples of published multiple intelligence curricula, this paper examines the ways in which music activities are being applied, and consequently, how music education is being defined.

The first section of this paper will briefly reacquaint the reader with Gardner's theory. The following sections will examine several examples of application of Gardner's theory, specifically addressing those issues that directly effect musical implications. Subsequently, an argument for music as a discrete discipline will be presented, as well as lingering questions that lend themselves to further exploration.

The Theory of Multiple Intelligence

When *Frames of Mind* was first published in 1983, Howard Gardner was unaware of the repercussions his theory would produce, nor was his intent "beamed toward the classroom" (1993a, p. ix), nor was he prepared for the large positive reaction it would have among educators (1995, p. 201). During the past 12 years, the theory of multiple intelligences has awakened the educational community to the notion that what was valued in the past — linguistic and logical-mathematical intelligence — is not sufficient for the present. Gardner could not have predicted the extent to which the theory would be integrated into educational situations as teachers, in their quest to better educate students, began to apply his theory in the classroom.

The quest is admirable, but the application problematic. In recent books and articles (some of which this paper will examine), teachers have given the

individual intelligences short shrift in an attempt to incorporate all of the intelligences in their curricula. In the attempt to address each of them equally, teachers often are not addressing any of them with substantiation, or even in the ways Gardner theorized.

Gardner originally intended his initial research on the intelligences as a "contribution to (his) own discipline of developmental psychology and behavioral and cognitive sciences" (1993a, p. ix). He felt that the definition of intelligence needed to be broadened to include research on the brain as well as the diversity of human cultures. Finally, he believed that the traditional paper and pencil test was not an effective way of ascertaining intelligence. Gardner's definition of intelligence became, "the ability to solve problems, or to fashion products, that are valued in one or more cultural or community settings" (p. 7).

Each intelligence — linguistic, logical-mathematical, bodily-kinesthetic, spatial, musical, interpersonal, and intrapersonal — must fulfill certain criteria. Each must have a special developmental feature, be observable in special populations, provide some evidence of localization in the brain, and support a symbolic or notation system (Gardner, 1993a).

Gardner was specific in the ways he believed these multiple pathways would enhance learning and curriculum development. "An intelligence can serve both as the content of instruction and the means or medium for communicating that content" (1993b, p. 32). If a student is having difficulties understanding a principle in mathematics (the content) then the teacher can provide an alternative route to understanding that concept (the medium or metaphor). In the past, the alternative route has most often been linguistic. Gardner is suggesting using one of the other intelligences as a medium for understanding the concept.

It is at this point, when the theory is applied, that educators often do not take the next step; for the concept translated into another medium is really not the concept. The concept must be transferred back into the content area if genuine understanding is to take place. "Without this translation what is learned tends to remain at a relatively superficial level; cookbook-style mathematical performance results from following instructions (linguistic translation) without understanding why (mathematics retranslation)" (1993b, p. 33). Gardner continues, "the alternative route is not guaranteed. There is no necessary reason why a problem in one domain, must be translatable into a metaphorical problem in another domain. Successful teachers find these translations with relative frequency; but as learning becomes more complex, the likelihood of a successful translation may diminish" (p. 33).

It is at this point in the application process that Gardner's principles often become forced and superimposed. Gardner himself has been "jarred" by attempts to "teach all concepts or subjects using all the intelligences" (1995, p. 206). If a teacher operates under the belief that he or she must attend to every intelligence in almost every lesson, the connections to the intelligences become strained. The

medium is often inappropriate, there is no authentic alternative route, and the suggestion of translation back into the content, non-existent.

Gardner made the logical extension of including assessment practices within the modes of the intelligences:

> An exclusive focus on linguistic and logical skills in formal schooling can short-change individuals with skills in other intelligences.... Yet linguistic and logical skills form the core of most diagnostic tests of "intelligences" and are placed on a pedagogical pedestal in our schools. (1993b, p. 31)

Logically then, the planning and including of the different intelligences would be meaningless unless assessed through the medium of that intelligence. "An assessment of a particular intelligence (or set of intelligences) should highlight problems that can be solved in the materials of that intelligence" (Gardner, 1993, p. 31). In the application of music activities, those problems, as well as the assessment of those problems, should be embedded in a musical system of knowing and assessing. The issue is not whether educators should be assessing the students' musical intelligence, but whether the assessment of the activity is musical in nature and content.

Gardner realized the difficulty of moving from the informal stage of music literacy to the formal symbolic stage of reading and writing music. "Another problem is to orchestrate the connection between practical knowledge and the knowledge embodied in symbolic systems and notational systems" (p. 30). Most of the authors whose work will be discussed in this paper — Armstrong, Lazear, Campbell et al., — preface their art and music activities with the disclaimer that these activities are not meant to take the place of a comprehensive music program. However, with or without a comprehensive music program in place, many of the activities that are suggested show little concern for the integrity of music and often for the integrity of learning in general. Using music activities to facilitate rote learning and memorization does not lead to deeper understanding or sound habits of mind. Gardner has been very explicit on this point: "These uses of the intelligences primarily as mnemonic devices... are essentially trivial" (1995, p. 206).

In the following section I will examine three authors and discuss their interpretation of Gardner's theory through their examples of musical applications. These authors are Mark Armstrong; David Lazear; and Linda Campbell, Bruce Campbell, and Dee Dickson.

Armstrong

In 1994 Armstrong wrote a book for the Association for Supervision and Curriculum Development in which he applied the theory of multiple intelligences to curriculum development, pedagogy, classroom management, and assessment strategies. Armstrong has Gardner's approval and support. In the introduction to

the Armstrong book Gardner wrote, "He has always stood out in my mind because of the accuracy of his accounts, the clarity of his prose, the broad range of his references, and the teacher-friendliness of his tone" (1994a, p. vii).

Although it is not my intent to review this book, it is important to note that a great deal of what Armstrong says does propose authentic experiences involving students in multiple intelligence activities. Much of what he proposes, however, simply disguises traditional behavioral and pedagogical strategies.

Armstrong writes, "By looking at these 'tricks of the trade' in terms of the theory of MI (multiple intelligence), we discover a fundamental methodology that can be used in structuring other types of classroom routines, such as preparing students for transitions, initiating activities, giving instructions, and forming small groups" (p. 99). He continues making suggestions for teachers and curriculum developers that incorporate the seven intelligences. In order to illuminate the musical applications, it is also insightful to look at some of his suggestions for the other intelligences.

- Logical-mathematical: "Use a stop watch to keep track of the time being wasted and write on the blackboard the number of seconds lost at 30-second intervals. Let the student know that this is time taken away from regular instruction that will need to be made up at a later date" (p. 98).
- Spatial strategy: "For a quiet classroom, put a picture of an attentive classroom on the board and refer to it with a pointer" (p. 98).
- Musical: "For transitions, play get-ready-for-lunch music: "Food, Glorious Food" from the musical, *Oliver*" (p. 99).

While each of these exercises might appear harmless enough through a traditional lens, and perhaps offers management and transitional suggestions, they are simply educational white noise and in some cases archaic discipline devices. Gardner points out that without focus on the performance, or art work, the intelligence is primarily "background" (1995, p. 206), and (as illustrated in the following example) illustrate more of an aspic in which to suspend intelligences than a way to develop and nurture them.

Armstrong makes the suggestion that in order to internalize the main element a teacher is emphasizing in a lecture, students should chant or express the point in a rhythmic format. For example, "To teach John Locke's concept of natural law, one half of the class can chant "natural law, natural law, natural law, natural law..." while the other half repeats: "life, liberty, happiness, life liberty, happiness..." (1994a, p. 77). The tenuous connections to musical rhythmic patterns in order to memorize a phrase hardly gives the students opportunities to understand the concept of the phrase. They are not involved in any real understanding of John Locke's law, nor have they done anything more than memorize a stock phrase that will probably not lead to further inquiry.

These are in fact "tricks of the trade," or cookbook-style learning that only superficially involve students. These activities have the appearance of success and the temporary elation of instant student engagement but they pander to a notion that students are not capable of learning anything unless it is sugar coated in otherwise mindless or trivial activity. Almost one hundred years ago Dewey remarked on these same kinds of activities:

> Instead of developing the material within the range and scope of the child's life... it is easier and simpler to leave (the material) as it is, and then by trick of method to arouse interest, to make it interesting; to cover it with sugar-coating; to conceal its barrenness by intermediate and unrelated material; and finally, as it were, to get the child to swallow and digest the unpalatable morsel while he is enjoying tasting something quite different. (1902/1990, p. 208)

Armstrong has also emphasized that, as teachers begin to apply the seven intelligences in the classroom, assessment strategies must change. He writes, "It's hypocritical to teach in seven ways and assess in one. It sends a mixed message to kids" (1994, p. 6, as cited in Willis). The article suggests that clearly articulating and discussing the criteria in advance of an assignment will allow students to work in the different intelligences. The following is an example of setting criteria from the above mentioned article: "If students choose to write a song to show their understanding of air pollution, for example, the teacher should specify what the song must convey: major sources of pollution, its political implications, and potential solutions..." (p. 6).

It is meaningful to discuss the criteria and develop rubrics with students to assess work, and this example clearly defines what needs to be included in a report on pollution.

However, what is also found here is a typical representation of how musical intelligence is applied and assessed. There is no mention of the criteria necessary for composing the song. The criteria are linguistic criteria. It is presumed that whatever form the song takes will be clever and a respectable example of creating a work of art, or a performance piece. As educators, we cannot continue to pretend that writing the words to existing known songs is creating music. Also, as educators, we need to rethink the issue of all performances as authentic representation of musical application and assessment.

The material is not being learned through an application of musical intelligence. The material is being memorized and applied within a linguistic context of a song. The song literally becomes a glorified (and again trivial) mnemonic device for cognitive structuring through the linguistic mode. In these cases, students are still using the linguistic intelligence for thinking and learning, and often it seems, unbeknownst to the teacher, for presenting and consequently

assessing. Thus, there are really no (what Gardner would call) "multiple entry points" into the curriculum:

> Not only are chances of acquiring understanding enhanced if multiple entry points are recognized and utilized, but in addition, the way in which we conceptualize understanding is broadened. Genuine understanding is most likely to emerge and be apparent to others, if people possess a number of ways of representing knowledge of a concept or skill and can move readily back and forth among these forms of knowing. (Gardner, 1991, p. 13)

It is clear from these examples that moving back and forth, using different forms of representation, will not develop deeper understanding if the entry points are consistently linguistic and superficial.

Campbell, Campbell, and Dickson

In *Teaching and Learning through the Multiple Intelligences*, Campbell, Campbell, and Dickson clearly state that the suggested musical activities are not meant to take the place of a comprehensive music program; rather the activities are in fact meant to "facilitate the learning of academic content" (1992, p. 82). Again, Gardner: "An intelligence can serve both as the content of instruction and the means or medium for communicating that content" (1993b, p. 32). The authors believe that musical activities are an enjoyable way to memorize information (clapping, singing, tapping) even if students have had no prior experience with music (1992, p. 82). Even though they qualify these activities as non-musical, these activities do not achieve what Gardner intended. They might be loosely defined as being used as the alternate route toward understanding, but the activities that are suggested offer nothing of what Gardner calls "genuine or performance learning" (1991, p. 9).

The authors also state that when students use music (or intelligences other than linguistic) it is another way of demonstrating their knowledge." Some students who are weaker in linguistic and mathematical domains may find it easier to share what they know through... song" (p. 201). The following activities, as well as many activities in the book, simply accomplish what Gardner called cookbook-style learning.

Writing the lyrics to songs in order to demonstrate one's understanding of the content is a consistent suggestion throughout this book. Writing song lyrics might demonstrate a superficial level of understanding, but how deeply and how seriously can one analyze and synthesize information when the constraints are a rhyming song with specific syllabic patterns. The following are two verses selected from a culminating activity in a social studies unit on multicultural art. The students chose to create a song to the tune of "When Johnny Comes Marching Home":

In China they made paper and they printed on it too.
They also built pagodas and made kites that really flew.
They painted dragons in the air,
They played their music everywhere,
And they all had art that we have learned about.
In Africa, they kept the beat, Hooray, Hooray.
They played their drums and danced their feet, Hooray, Hooray.
They dyed their cloth with patterns bright
And sculpted metal to catch the light.
And they all had art that we have learned about.
(From the second and third verse, p. 96)

"When Johnny Comes Marching Home" is a truly beautiful and moving song that depicts a critical time in our history. The juxtaposition of the dirge minor melody and the upbeat tempo disguise the depth and poignancy of this song. The song should not be decontextualized in such a manner or be treated with such flippancy. If teachers were to assess this as a musical activity, then the assessment parameters would have had to include how well the original syllables match syllables in this original rendition. One wonders if good or correct singing was also an assessment criterion of this performance.

Campbell et al. suggest many content areas in which students will find song lyrics as a way "to memorize academic content" (p. 86). They suggest sources of songs for math facts "taught with their own rhythmed association and melody" (p. 88). The students are asked to memorize the math facts with the melodic/rhythmic patterns. After the students have memorized the math facts they will then be "asked to produce the correct answer from recognizing the melody provided for each.... Nearly all students will appreciate replacing repetitive drill and practice with musically motivating learning" (p. 88). What message does this send the students about music? What message does this send the students about the beauty of mathematics? "Should mastery of the number fact be defined in terms of almost instantaneous answer obtained by rote memory? I think not" (Ginsburg, 1989, p. 123). In this case, drill and kill is only disguised, badly at that, by "singing."

Campbell et al. also believe that it is important for students to "benefit from demonstrating their knowledge in more than one way" (p. 201). For a spelling lesson, they can spell new words to music that is "not only fun, but accelerates learning" (p. 89). Students are asked to label the keys of the piano with the letters of the alphabet, then they are asked to play the spelling words on the piano. "Later they will be asked to recall the tones and sounds of each word and write its corresponding letters" (p. 89). This is blatantly unmusical for several reasons. The piano has an alphabet of its own (a–g). Labeling the keyboard using the entire alphabet can not only be confusing to students who may already be familiar with the musical alphabet, but it is simply not an authentic musical experience.

A closer examination of the activity is in order. First the keys have to be labeled. The decision must be made as to where to start labeling the keyboard and whether one is going to include the black keys. For the sake of this argument, and less confusion for students, the black keys will not be included. Let us say the spelling word is zebra. If we were to begin the alphabet on the very bottom note of the piano the letter "z" would not occur until the note "e" above middle "c." This in itself is good for two reasons: there is no way children would be able to sing the first 20 letters, and it is very difficult to remember tonal patterns if they are not in a vocal range that is comfortable for the singer. At this point we have established that the letter "z" is the note "e" above the note middle "c."

The next letter in zebra, "e," offers the choice as to whether you would travel up the alphabet (or up the keyboard), or down the alphabet. Since the letter "e" is only five steps away from the letter "z" (assuming the validity of the postulate that "a" follows "z") that is what we will choose. Now we choose to move back down two steps to the letter "b" in zebra. Then we travel up to the letter "r" four octaves above the note middle "c," a note beyond human vocal range. Since we will run out of notes if we continue up for our final letter "a" (and final note "f"), we must jump down several octaves to finish on "f" above middle "c."

Confusing? Accomplished musicians could not replicate this pattern. And because there is no tonal center, no feeling of a resting place or center, only random notes all over the keyboard, it would be very difficult to memorize the tonal pattern in order to remember the spelling of zebra. Of course, this is a painstaking process and in the interim the students might learn the spelling of zebra just because of the process — but not because it is musical, and certainly not because spelling is couched in an authentic and contextual use.

If the multiple intelligence proponents incorporated a broader philosophy of learning, as well as becoming familiar with more holistic points of educating the whole child, there would be less decontextualizing of skills and more genuine applications of the intelligence learning theory. Many of the authors seem to be unaware of developmental theories, or social learning philosophies as well as the current thought that the memorization of facts and figures accomplishes only the memorization of facts and figures. Unfortunately, as Dewey pointed out, "It is possible for the mind to develop interest in a routine or mechanical procedure if conditions are continually supplied which demand that mode of operation and preclude any other sort" (1902/1990, p. 207). Deeper understanding, genuine inquiry, or authentic experiential learning is not facilitated in an environment that relies strictly on rote and transmission of information.

At an MI workshop New Ways of Learning Conference, January 1996, Bruce Campbell did address the issue of linguistic applications to musical activities. He cautioned the participants that "performance and demonstration of song is musical, writing the words is linguistic." However, good performance

requires high musical standards as well as sophistication of musical presentation. If students are to be given the "opportunity to learn incorporating different intelligences" (Campbell, conference notes) they must be given the basic tools as parameters needed for authentic musical experiences.

Lazear

In the introduction to Lazear's *Seven Ways of Knowing*, Gardner describes how his theory has been applied and taken to new directions, such as Lazear's "pioneering and skillful example" (1991, p. v). Pioneering is apt, as Lazear's book was one of the first to be published in the wake of *Frames of Mind* (1983). He has gone on to write several books describing and suggesting activities and lessons, as well as assessment practices for teachers, parents, administrators, and students, on the subject of multiple intelligences (see references for a more complete list).

Lazear writes that there are three types of lessons used when employing the multiple intelligences. Each intelligence can be "taught as a subject or discipline, each can be used as means to gain knowledge in an area beyond themselves and each can be used as lessons that teach students about their own intelligences" (1991a, p. 165). The first statement presents an argument for music to be taught as a discrete discipline. However, it is not clear in the examples Lazear includes that he intends for the intelligence of music to be considered a discipline. As with many of the multiple intelligence activities, the remaining two types comply with the theory, as long as the activities are not misconstrued as musical activities and are not assessed through the linguistic mode.

Lazear asks, "What if we were simply to redefine the standards of standardized testing to include at least seven intelligences? What if we gave equal value to the development of a full range of human capacities and skills including all of the intelligences?" (1994a, p. 12) These two questions appeal to educators' progressive sense of right and fairness. However, standardized testing of the intelligences would only continue to propagate the notion of decontextualized skill testing and perhaps intelligence tracking.

In the following activity, the suggestion of developing the full range of human capacities and skills is really only a linguistic wolf draped in musical clothing. Under the heading of "Teaching and Learning with Musical/Rhythmic Intelligence," Lazear suggests a lesson that can "help students learn and remember various information, processes and operations that are needed in other learning contexts" (p. 109). The activity requires each group to write a song, jingle, or rap that will teach the topic to others. It is probably guaranteed that most students will memorize the information more quickly using this strategy. However, without delving into the musical significance of the song, jingle, or rap, the musical merit of each is suspect without a set musical criteria; there is no development of the musical intelligence. Again, the activity is linguistic in

nature. Lazear does not take the next step in reminding the teacher that the concept translated into another medium is not really the concept. At some point the concept must be transferred back if understanding the why and how of the concept is to take place (Gardner, 1993a, p. 32). He also neglects to outline the assessment rubric or the intelligence criteria for writing the song, jingle or rap.

Lazear believes that "the core of the development of language is being able to reproduce strange sounds at a prescribed pitch frequency, and melodic pattern (sometimes called words)" (p. 99). Hence, he makes suggestions for the "recognition, creation and reproduction of melody and rhythm" (p. 99). In this exercise students are to work in pairs each person creating a secret list of songs. One partner is to hum the song and the other is to hum it back. Lazear writes, "work with your partner until he or she gets it" (p. 99). If students are uncomfortable matching pitches (singing the correct sounds back as they have been sung or played) then replicating melodies on the spot can be traumatizing. Humming back songs cannot possibly begin to build the repertoire needed for the core from which to pull the "words" of music. Also, music educators with a firm philosophical belief in encouraging and allowing children to match pitches in a safe environment before they are asked to sing alone, might wonder if the suggestion will be what Armstrong has referred to as "paralyzing experiences," or an experience that "shuts down an intelligence" (1994, p. 23). If one of the main goals of the theory of multiple intelligences is to awaken students to new ways of understanding, and consequently a new respect for understanding as well as what Campbell said, to "foster positive attitudes towards music and to recognize its relationship to other kinds of learning (1992, p. 83), then a deeper awareness of the ramifications of many of these activities needs to transpire.

Discrete Disciplines for Effective Interdisciplinary and MI Applications

In the light of these multiple design issues, it might be necessary for educators to concede that discrete discipline skills cannot be thoroughly taught within an MI unit. Perkins, in citing the work of Feuerstein, notes that "it isn't that (such) skills will transfer, but merely that they are best learned initially in sharply defined and isolated contexts" (1980, p. 17). Irwin and Reynolds go so far as to state, "disciplinary knowledge is the primary goal, interdisciplinary knowledge is a secondary goal, and the integration is a strategy to achieve these goals" (1995, p. 18). Ackerman also addresses this point when he calls for validity within the disciplines as well as validity for the disciplines. He believes there will be circumstances in where there will be some subjects, or disciplines, in which the identified concepts will not play a significant role in the theme (1989, p. 27, as cited in Jacobs). If this is the case, then these disciplines, or even the indicia of these disciplines, do not need to be introduced into the unit. "Validity within the disciplines requires teachers representing each discipline to

verify that the concepts identified are not merely related to their subjects but are important to them" (Ackerman, 1989, p. 27).

If one of the aims of education is higher order thinking and understanding, or as Gardner, Boix-Mansilla have stated, "the capacity to use current knowledge, concepts and skills to illuminate new problems or unanticipated issues" (1994, p. 200), then perhaps thinking skills, or similar pedagogies, as well as higher order concepts, rather than isolated MI activities, should be the integrated design thread." It makes far more sense to spend a significant amount of time on key concepts, generative ideas and essential questions and to allow students to become thoroughly familiar with these notions and their implications" (Gardner, 1995, p. 208). And finally Gardner and Boix-Mansilla also posit, "It is crucial to note that interdisciplinary work can be carried out legitimately only after the individual has become at least somewhat conversant in the relevant disciplines" (1994, p. 208). "Somewhat conversant" in music implies basic music literacy skills, as well as teachers who are capable of examining music with a base level of analysis and interpretation.

If application within an integrated unit is purely deductive and analytical — devoid of music making and aesthetic experience — students do not experience musical thinking. One cannot experience musical thinking without "doing" music for an authentic, meaningful musical purpose. However, what students can experience is correlation in a broader sense. They can begin to make larger connections and understand how music can extend and add greater support and understanding to other contexts and disciplines. Essentially, students could use music connections as a multiple entry point for analyzing across disciplines. Skills will contribute to deeper understanding, but as the reader will observe in the unit "Escalation of Violence in America," the heart of the integrated unit will be to engage students in "connections, clarity of thinking and evaluation across disciplines" (Erickson, 1995, p. 30). Consequently, as Gardner and Boix-Mansilla have cautioned, teachers should think twice before throwing "out the 'disciplinary baby' with the 'subject matter' bath water" (1994, p. 199).

Lingering questions

This paper has attempted to address many of the fundamental issues concerning the application of MI theory specifically to music. When considering these issues, ambiguities arise. Perhaps the more broad and overarching question is: How can music be used effectively within an integrated setting? Even more explicit: What are the fundamental beliefs classroom teachers and music teachers hold about the aim of general education within these musically involved MI curricula? Rhythmic or melodic patterns can facilitate the memorization of facts and figures. However, as this final example will illustrate, it is possible to integrate music with educational and musical integrity in ways that could lead

students to a deeper involvement with the basics of music literacy and would provide what Gardner had originally intended, a multiple entry point.

This final example of an integrated unit does not purport to be a MI activity. Music is used to extend the understanding of the concept. "Escalation of Violence in America in the last Decade" (1995, p. 115, contributed by, A Mills, B Hazel, E. Washington, E. Workman and S. Newell, as cited in Erickson), allows students to examine the concept of violence by viewing these issues through multiple disciplines. In the subject area of art and music, students are grappling with issues such as rap and graphic sound effects in movies. Rather than making up a rap tune to understand violence, students are examining the ways in which rap has been influenced or has influenced violence in America. In this situation "the arts appear as what they are — aesthetic, cultural (and therefore ideological) phenomena, created under particular social, political, and economic conditions" (Edelsky, Altwerger and Flores, 1991, p. 65).

An established comprehensive music program that includes an understanding of the sound/symbol notational system, acquiring discerning listening skills, as well as studying the social and historical role of music within cultures (National Standards for Arts Education, 1994, p. 26), would also allow these same students to understand not only a historical framework for rap, but the underlying complex rhythmic and melodic constructs of rap. This kind of musical understanding would offer a multiple entry point, raise an awareness of rap that would transcend the linguistic imagery, and support a symbolic or notation system (Gardner, 1993a). Students who are able to analyze the musical value and linguistic implications of rap will be in a better position to make connections with other forms of musical structures. Music plays a powerful role in this perspective; it is musically, as well as educationally, constructive in its application.

As educators, each of us makes a myriad of decisions that are reflected in our words and actions. Attributing nonmusical attributes to the benefits of music only continues to "divert attention away from the fact that music is worth studying regardless of any nonmusical benefits" (Abeles, Hoffer and Klotman, 1994, p. 89). As long as we are clear about our own philosophical educational beliefs and are consistent in dealing with our students, the inadequacy of including music activities that are inauthentic and invalid will become apparent. We must continue to welcome and discuss educational theories that provide a sound basis for integrating information and learning, as well as the realization that each child is different and cannot be treated in a "homogenized fashion" (Gardner, 1995, p. 208).

Conclusion

In an article in which he comments on Gardner's theory, Sternberg writes, "I am concerned that yet another theory without direct supporting evidence is

being avidly sought by educators as the 'new panacea,' as was Bloom's taxonomy some years back" (1994, p. 561). Educators should not fall prey to the belief that MI theory is the ultimate answer to curriculum and assessment issues within the educational community (Gardner, 1995). Whether there are seven intelligences or more (Gardner, 1993, p. xviii, 1995, p. 206), it is mandatory for today's educators to consider intelligences other than linguistic and logical-mathematics. These recent applications of MI theory demonstrate a general shift in the direction of curriculum design. Without these applications, there would be no place from which to construct new understandings and applications. Noddings, describing Dewey's concept of democracy writes, "It is a matter of trying things out with the valued help of experts (teachers), of evaluating, revising, comparing, sharing, communicating, constructing, choosing" (1992, p. 165). If, through the examination of what has been considered equal application of intelligences, we discover that equal means diluting the intelligences to applications of their lowest common denominator, then we must continue to evaluate, revise and seek other interpretations and solutions and not content ourselves with quick fixes or panaceas.

For musical intelligence to be treated as equal to the other intelligences, classroom teachers must have musical training or make use of a skilled music teacher in the planning of activities. Acquiring basic music skills would allow classroom teachers to include music in more authentic ways, as well as give them a vocabulary with which to discuss music content and integration possibilities with their school music teacher. Every choice teachers make defines their position and sends a message to their students, colleagues, parents, administrators, and the world (Reimer, 1989, p. 7). Classroom teachers must be purged of the notion of music as a stepchild, irrelevant to the essential elements of education, so that they do not denigrate music directly or obliquely in its integration into the curriculum. Music specialists must also be wary of denigrating music directly or obliquely in its integration into the curriculum, as well as purging themselves of the notion that integrating music on a meaningful level will undermine music education as a discrete discipline.

As with any significant problem, the theory of multiple intelligences raises issues that lend themselves toward partisanship. Rather than music educators situating themselves in one camp or the other, the theory offers the music education community the opportunity to engage in a dialogue that encourages each of us to examine more closely and reflect more deeply on our practice, as well as our philosophical beliefs. In reference to the MI projects the Key School in Indiana has developed, Gardner has reflected, "Some materials need to be taught in more disciplined, rote, or algorithmic ways. Some projects can become a license for fooling around, while others may function as a way of hiding fundamental deficiencies in the understanding of vital disciplinary content" (Gardner, 1993b, p. 118). Perhaps through examination and reflective inquiry

each of us will determine whether our practice reflects hidden deficiencies in our curriculum or pedagogy, or whether we are constructing the intellectual framework that will enable music education to thrive as a vital disciplinary content.

References

Abeles, H., C. Hoffer, and R. Klotman 1994. *Foundations of Music Education,* 2nd ed. New York: Schirmer Books.

Ackerman, D., and D. N. Perkins 1989. "Integrating Thinking and Learning Skills across the Curriculum." In *Interdisciplinary Curriculum: Design and Implementation,* ed. H. Jacobs, 77–96. Reston, Virginia: Association for Supervision and Curriculum Development.

Armstrong, T. 1994. *Multiple Intelligences in the Classroom.* Reston, Virginia: Association for Supervision and Curriculum Development.

Campbell, B. 1996, January. Keynote address and morning plenary session. Keynote conducted at New Ways of Learning Conference: Spotlight on the Multiple Intelligences, Tucson, Arizona.

Campbell, L., B. Campbell, and D. Dickson 1992. *Teaching and Learning through Multiple Intelligences.* Stanwood, Washington: Campbell and Associates.

Campbell, M. R. 1995. "Interdisciplinary Projects in Music." *Music Educators Journal* 82, no. 2: 37–44.

Dewey, J. 1902/1990. *The School and Society;* and *The Child and the Curriculum: A Centennial Edition.* Chicago: University of Chicago Press.

Edelsky, C., B. Altwerger, and B. Flores 1991. *Whole Language: What's the Difference?* Portsmouth, New Hampshire: Heinemann.

Erickson, L. 1995. *Stirring the Head, Heart, and Soul: Redefining Curriculum and Instruction.* Thousand Oaks, California: Corwin Press, Inc.

Gardner, H. 1991. *The Unschooled Mind.* New York: Basic Books.

Gardner, H. 1993a. *Frames of Mind: The Theory of Multiple Intelligences,* 10th anniversary ed. New York: Basic Books.

Gardner, H. 1993b. *Multiple Intelligences: The Theory in Practice.* New York: Basic Books.

Gardner, H. 1994. *The Arts and Human Development.* New York: Basic Books.

Gardner, H., and V. Boix-Mansilla 1994) "Teaching for Understanding: In the Disciplines and Beyond." *Teachers College Record* 96, no. 2: 198–218.

Gardner, H. 1995. "Reflections on Multiple Intelligences: Myths and Messages." *Phi Delta Kappan* 77, no. 3: 200–209.

Ginsburg, H. 1977. *Children's Arithmetic.* Austin, Texas: Pro Ed.

Irwin, R., and J. K. Reynolds 1995. "Integration as a Strategy for Teaching the Arts as Disciplines." *Arts Education Policy Review* 96, no. 4: 13–19.

Lazear, D. 1991a. *Seven Ways of Knowing.* Palatine, Illinois: Skylight Publishing.

Lazear, D. 1991b. *Seven Ways of Teaching: The Artistry of Teaching with Multiple Intelligences.* Palatine, Illinois: Skylight Publishing.

Lazear, D. 1994a. *Multiple Intelligence Approaches to Assessment: Solving the Assessment Conundrum*. Tucson, Arizona: Zephyr.

Lazear, D. 1994b. *Seven Pathways of Learning: Teaching Students and Parents about Multiple Intelligences*. Tucson, Arizona: Zephyr.

Marks-Tarlow, T. 1996. *Creativity Inside Out: Learning through Multiple Intelligences*. New York: Addison Wesley.

National Standards for Arts Education 1994. Reston, Virginia: Music Educators National Conference.

Noddings, N. 1992. *The Challenge to Care in Schools: An Alternative Approach to Education*. New York: Teachers College Press.

Perkins, D. May, 1986. "On Creativity and Thinking Skills: A Conversation with David Perkins." *Educational Leadership* 43, no. 8: 49–55.

Reimer, B. 1989. *A Philosophy of Music Education,* 2nd ed. Englewood Cliffs, New Jersey: Prentice Hall

Sternberg, R. 1994. "Community: Reforming School Reform: Comments on MES: The Theory in Practice." *Teachers Call Record* 95, no. 4: 561–569.

Willis, S. 1994. "The Well-Rounded Classroom: Applying the Theory of Multiple Intelligences." *Association for Supervision and Curriculum Development: Update* 36, no. 8: 1–8.